ND BUSINESS EDUCATION FRAMEWORKS
Web Design

Course Code	Course Name/Description	Grade Levels	Accreditation Time/Credit Options
14022	**Web Design** is a course designed to introduce students to a variety of ways to create and maintain web pages. The students will focus on the overall production processes with emphasis on design elements involving layout, navigation, and interactivity. Understanding of proper ethics, social networking, and cyber security topics will be integrated. The basic language of web design and software will be taught along with the additional media inputs within a website (e.g. video, animation, sound, scrolling marquees, forms, contacts, and other additional components). Careers in web design are explored.	9-12	½ or 1

Topic	Standards
History and Career Opportunities	• Explain how information technologies meet human needs and improve quality of life (8.1.1.2) • Describe how information technology has changed social mores, including attitudes toward work, family, school, and other cultures (8.1.1.3) • Explain the impact of information technology on the environment (8.1.1.4) • Describe the impact of technology on the knowledge and skills needed in the workplace (8.1.1.9) • Describe how information technology impacts worker-management relationship (8.1.1.10) • Describe how information technology has fostered greater interdependence among workers, organizations, and nations (8.1.1.11) • Explain how information technology has contributed to worker productivity and teamwork (8.1.1.12) • Analyze the potential societal effect on widespread reliance on information technology (8.1.1.13)

History and Career Opportunities	• Analyze how human ingenuity and technology helps satisfy specific human needs and improve the quality of life (8.1.1.14)
	• Describe how information technology has changed the breadth and level of worker responsibilities (8.1.1.17)
	• Describe how information technology has transformed business processes and relationships (8.1.1.18)
	• Describe how information technology has changed the manner in which training is offered and implemented (8.1.1.19)
	• Use information technology skills in today's learning environment (8.1.1.22)
	• Discuss the history of the Internet and its technologies (8.4.6.9)
	• Research industry certifications (8.4.6.21)
	• Develop digital penmanship skills to enhance academic skills (8.5.1.4)
	• Optimize academic and workplace performance using a variety of input technologies (8.5.1.10)
	• Explain the need for lifelong learning and professional growth (8.9.1.10)
	• Identify positions and career paths in the field of information technology and explore careers in information technology (e.g., field trips, guest speakers, job shadowing) (8.12.1.3)
Web ethics/etiquette and Copyright	• Apply the rules of digital communication etiquette (4.3.1.8)
	• Address the ethical issues regarding ownership and use of digitally generated information including plagiarism and copyright issues (4.3.1.25)
	• Identify characteristics of appropriate behavior (4.5.5.1)
	• List consequences of inappropriate behavior (4.5.5.2)
	• Discuss misleading information in various media (4.5.5.3)

Web ethics/etiquette and Copyright	• Define personal ethics (4.5.5.4)
	• Define ethics and identify the process by which individuals develop the foundations for making ethical decisions (4.5.5.8)
	• Discuss the importance of taking responsibility for all oral and written communication and actions taken (4.5.5.9)
	• Solve problems using techniques that take into consideration personal and ethical values (4.5.5.10)
	• Discuss the dilemma of deciding what is best for oneself, for the company, and for the customer (4.5.5.15)
	• Discuss the role integrity plays in business in the short-and long-term (4.5.5.16)
	• Design and create websites incorporating navigation and linking (8.4.6.7)
	• Discuss the history of the Internet and its technologies (8.4.6.9)
	• Demonstrate proper use and protocol of e-mail as a form of communication (8.7.1.3)
	• Work collaboratively with a team using information technology resources (8.9.1.1)
	• Tutor others in information technology skills in a cooperative and collaborative manner (8.9.1.2)
	• Develop interpersonal skills (8.9.1.3)
	• Develop technical reading skills to follow instructions (8.9.1.4)
	• Develop technical writing, digital communication, and presentation skills to work effectively with globally and culturally diverse individuals (8.9.1.5)
	• Identify and apply federal and state legislation pertaining to copyright, computer crime, fraud and abuse (8.10.1.8)
	• Define and describe ethical behavior (10.5.1.1)

Web ethics/etiquette and Copyright	• Explain the importance of ethical standards in conducting business (10.5.1.2) • Identify personal ethical values (10.5.1.3) • Examine a business code of ethics (10.5.1.4) • Create a personal code of ethics (10.5.1.5) • Identify the impact of unethical behavior on a business (10.5.1.6) • Identify ethical considerations resulting from various situations (10.5.1.7)
Hardware components/requirements	• Identify hardware components appropriate for specific tasks (8.2.1.1) • Connect needed peripheral devices (8.2.1.2) • Explain the purpose, operation, and care of hardware components (8.2.1.3) • Describe interrelationships between hardware components and supportive software (8.2.1.6) • Evaluate the capabilities and limitations of hardware for user needs (8.2.1.7) • Evaluate simple hardware problems (8.2.1.11) • Describe the process of troubleshooting hardware problems (8.2.1.12) • Evaluate and recommend hardware to solve specific problems (8.2.1.13) • Navigate the basic operating system (8.3.1.1) • Analyze web server solutions and platforms (8.4.6.28)
File Management	• Compare and contrast various storage options (e.g., local, removable, remote) (8.2.1.8)

	- Manage files and folders (8.3.1.2) - Maintain a web site using proper file management (8.4.6.11) - Demonstrate proper file management techniques on stand-alone and local area networks (LAN) (8.7.1.4)

Evaluation	- Use online databases and search engines to find basic business information (4.3.1.12) - Evaluate messages and select the appropriate technology for transmitting them (4.3.1.21) - Identify various forms of misleading information (4.5.5.6) - Discuss misleading and missing information in business documents and the impact on business (4.5.5.14) - Identify uses of information technology in the home, school, workplace and global society (8.1.1.1) - Identify and evaluate how information technology developments changes the way humans do their work (8.1.1.20) - Analyze and compare society's influence on information technology and information technology's influence on society (8.1.1.21) - Identify examples of emerging technologies (8.2.1.4) - Identify and use appropriate help resources (e.g., help desks, online help, and manuals) (8.2.1.9) - Demonstrate the use of a web browser (8.4.6.1) - Identify and explain various types of online resources (8.4.6.3) - Access, navigate, and use online resources (8.4.6.4)

Evaluation	- Identify good design concepts by reviewing various websites (8.4.6.5) - Apply appropriate web design concepts (8.4.6.6) - Describe and use various internet protocols (e.g., http, ftp, mailto, and telnet) (8.4.6.13) - Identify client and target audience needs (8.4.6.15) - Create content that is readable, accessible, searchable, and sticky (8.4.6.16) - Research and apply accessibility guidelines and laws affecting website design (8.4.6.17) - Research and analyze hosting and domain name solutions (8.4.6.18) - Identify the components of a well-developed business website (8.4.6.22) - Assess website content in terms of organization policies and federal and state laws (8.4.6.26) - Explore translation and digital language input tools and resources for effective global communication (8.5.1.11) - Access, navigate and use online services (8.7.1.1) - Identify and explain various types of online services (8.7.1.2) - Identify, evaluate, and use resources (e.g., hardware, software, online) for problem identification and resolution (8.9.1.7) - Identify and use help-desk software (8.9.1.8) - Identify, evaluate, and select training resources for appropriateness to needs and users (8.9.1.12) - Select training venues appropriate to learners (e.g. online, over-the-shoulder, distance learning, documentary, and multimedia) (8.9.1.14)

Basic programming language/definitions	• Define terminology related to the Internet (8.4.6.8)
	• Create a web site, incorporating various types of media (e.g., text, image, video, audio) using a GUI editor, HTML, and XHTML (8.4.6.10)
	• Create a comprehensive website using good design (8.4.6.12)
	• Build dynamic web elements utilizing scripting, coding, and database integration (8.4.6.27)

Web development/design software	• Use basic software applications (4.3.1.4)
	• Use CDs, DVDs, videos, and the Internet for knowledge acquisition (4.3.1.5)
	• Refine documents using spell check, thesaurus, and grammar check tools (4.3.1.10)
	• Record, edit, and transfer MP3 files (4.3.1.14)
	• Use digital messaging technologies (4.3.1.18)
	• Compose and evaluate formal and informal digital correspondence (4.3.1.19)
	• Demonstrate ability to use voice input and voice recognition tools (4.3.1.22)
	• Enhance documents through the use of advanced layout, design, and graphics production software and scanning hardware (4.3.1.24)
	• Create and edit audio and video documents (4.3.1.28)
	• Demonstrate knowledge of mobile technology (4.3.1.30)

Web development/design software	• Proofread and edit documents for spelling and punctuation (8.4.1.3)
	• Apply formatting functions including fonts, sizes, and positioning (8.4.1.5)
	• Demonstrate editing functions including cutting, pasting, importing and exporting text and graphics (8.4.1.8)
	• Demonstrate integration procedures to create merge documents and linked documents (8.4.1.12)
	• Apply formatting functions including styles and advanced formulas (8.4.2.18)
	• Explain the meaning of common presentation and multimedia software and terminology (8.4.4.4)
	• Explain the purposes, functions, and common features of presentation and multimedia software (8.4.4.5)
	• Identify principles and techniques of presentation and multimedia design and delivery (8.4.4.6)
	• Identify and select various software and hardware appropriate for multimedia tasks (8.4.4.7)
	• Use various forms of software and hardware to create and modify images (8.4.4.8)
	• Create visuals using desktop graphics software (8.4.5.12)
	• Use a GUI-interface to create a simple web page (8.4.6.2)
	• Apply appropriate web design concepts (8.4.6.6)
	• Design and create websites incorporating navigation and linking (8.4.6.7)
	• Create a web site, incorporating various types of media (e.g., text, image, video, audio) using a GUI editor, HTML, and XHTML (8.4.6.10)
	• Create a comprehensive website using good design (8.4.6.12)

Web development/design software	• Design, develop, and deliver advanced web content and applications using authoring tools (8.4.6.19)
	• Test, implement, and evaluate the website (8.4.6.20)
	• Compare and contrast the features of web development software (8.4.6.25)
	• Apply a variety of input technologies to maximize productivity (8.5.1.7)
	• Compose documents using a variety of input technologies (8.5.1.8)
	• Select appropriate input technology to optimize performance (8.5.1.9)
	• Build websites to support mobile platforms (8.4.6.31)
	• Develop organization policy for website content and access (8.4.6.32)
	• Use a wide variety of information technology resources to retrieve information (8.6.1.1)
	• Evaluate the credibility and bias of information sources (e.g., sponsored and non-sponsored sources) (8.6.1.2)
	• Interpret information for use in decision making (8.6.1.3)
	• Find, classify, and order retrieved information (8.6.1.4)
	• Cite sources of all types of data (8.6.1.5)
	• Use search procedures appropriate to type of information, nature of source, and nature of query (8.6.1.6)
	• Evaluate the accuracy, relevance, and comprehensiveness of retrieved information (8.6.1.7)
	• Draw conclusions and make generalizations based on information gathered (8.6.1.8)
	• Analyze, access, exchange, organize, and synthesize information (8.6.1.9)

	• Analyze the effectiveness of online information resources to support collaborative tasks, research, publications, communications, and increased productivity (8.6.1.10) • Synthesize information from data sources to formulate decisions (8.6.1.11) • Use mathematical and/or statistical methods to manipulate data into useful information (8.6.1.12) • Present analyzed information in a meaningful format (8.6.1.13)
Publishing web sites	• Send pictures, video, and text messages digitally (4.3.1.15) • Design and publish an effective web page (4.3.1.27) • Discuss the limits and capabilities of storage (4.3.1.29) • Publish files on local and remote systems (8.4.6.14)
Cyber security, social networking, Firewalls, portals, security software Understand the components of hardware and software use	• Discuss the implications of harassment and bullying (4.2.2.3) • Discuss rules of safe and appropriate conduct when using the Internet and email (4.3.1.11) • Discuss dangers of Internet predators (4.3.1.13) • Demonstrate ability to view or attend digital conferences (4.3.1.16) • Discuss and identify ways to keep business data secure (4.3.1.17) • Discuss the risks of identity theft (4.3.1.20) • Discuss appropriate and safe online behavior (4.3.1.23) • Discuss benefits of digital conferencing (4.3.1.26)

Cyber security, social networking, etc.	• Identify characteristics of appropriate behavior (4.5.5.1)
	• List consequences of inappropriate behavior (4.5.5.2)
	• Discuss misleading information in various media (4.5.5.3)
	• Define personal ethics (4.5.5.4)
	• Discuss the difference between ethical and legal behaviors (4.5.5.5)
	• Discuss common types of unethical behavior in the workplace (4.5.5.7)
	• Discuss the impact of romantic relationships in the workplace (4.5.5.11)
	• Discuss how decisions relating to family and friends impact a career (4.5.5.12)
	• Adhere to safety and security policies (e.g., acceptable use policy, web page policies, and student photo policies) (8.10.1.1)
	• Adhere to federal and state laws that apply to safety and security, including laws pertaining to copyright, computer crime, fraud, and abuse (8.10.1.2)
	• Explain the risks and dangers of sharing personal information (8.10.1.3)
	• Identify and discuss privacy issues within an organization (8.10.1.4)
	• Implement procedures to prevent system failures and viral infections (8.10.1.5)
	• Implement procedures to restart and recover documents due to system failure (8.10.1.6)
	• Implement controls to prevent loss of integrity of data and other information resources (8.10.1.7)

	• Identify risks to personnel, facilities, data, communications systems, and applications (8.10.1.1)
E-Commerce	• Describe how new developments in information technology affect supply/demand (8.1.1.16)
	• Identify the components of a well-developed business website (8.4.6.22)
	• Identify the components of an e-commerce site (8.4.6.23)
	• Design e-business and e-commerce solutions (8.4.6.24)
	• Develop a customer-oriented, service-quality approach to users (8.9.1.6)